

1 **Abstract**

2 Methods and apparatus are described for reducing damage to items
3 shipped in corrugated boxes, and for reducing damage to the boxes themselves
4 and the packing material within them. Damage is limited by adding one or more
5 planar damped panels to a box for redistributing kinetic energy absorbed by the
6 box when it is subjected to characteristic shipping shock and vibration. Efficient
7 coupling of redistributed kinetic energy to resilient packing material within a box
8 allows the use of relatively less resilient padding surrounding shipped items, thus
9 allowing use of a relatively smaller box to obtain an acceptable level of
10 protection. Planar damped panels also limit shifting of the item(s) to be protected
11 by acting as damped variable-rate springs.